

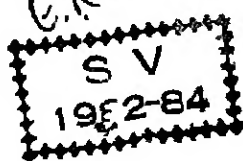
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A NATIONAL COUNCIL
OF
EDUCATIONAL RESEARCH AND TRAINING PROJECT

for further expansion and testing of the cognate method
of teaching Dravidian languages

R-ERIC

ERIC



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DEPARTMENT OF LINGUISTICS, UNIVERSITY OF KERALA, KARIYAVATTOM
TRIVANDRUM

P H O N O L O G Y O F M A L A Y A L A M

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D A T E D. 22 - 6 - 1973.
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V. R. PILLAI

SR. FELLOW.

NCERT PROJECT.

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INTRODUCTION

Inventory of Phonemes Vowels

Consonants.

Classification of Vowels

Classification of Consonants

Examples of Contrast

Vowels

Consonants

Distribution of allophones.

Vowels

Consonants

Syllabic structure

An experimental study of the Patterns of Consonant Clusters

Clusters (General)

Phonotactics

Distribution of Vowels

Distribution of Consonants

A PHONEMIC OUTLINE OF THE LANGUAGE IN THE MALAYALAN NEWSPAPER"KERALA KAUMUDI". DATED. 22 - 6 - 1973.

The purpose of the Present analysis is to Produce an outline of the Phonology of Malayalam as gleaned from the Newspaper dialect.

The analysis is based on the Index Consisting of more than 4300 word items with a total frequency of 14000/ words, prepared from the above newspaper.

Since this analysis is oriented from the written representation of the language the narrow phonetic transcription is not intended. However I have made use of the earlier transcriptional system followed in the Department of Linguistics to identify the phonetic realization of the graphemes.

There are 49 graphic units found in the newspaper language - 12 for vowels and 37 for consonants.

Of 12 vowels the long vowels and diphthongs (ai and au) are taken as clusters of identical and non-identical vowels. Thus we get five writing units of vowel phonemes.

After delimitation the phonemes posited are 42 in number i.e., 5 vowels and 37 consonants.

An onglide ɛy- can be noticed in high front and mid-front vocoids when pronounced. Similarly an onglide ɛw- can be identified with the high back and mid back vocoids. Since it is the general Characteristic of the language it is not treated with individual instances.

INVENTORY OF PHONEMES

Segmental Phonemes

VOWELS :

1 2

0 0

4

CONFIDENTIAL

p	b	t	d	R	ṭ	ḍ	o	j	k	g
ph	bh	th	dh		tḥ	dḥ	oh	jh	kh	gh

m **n** **a** **b** **c** **d**

1 1 1

I

g g g h

V

y

C L A S S I F I C A T I O N O F V O W E L S

	front	Central	Back
High	i		u
Mid	e		o
Low		a	

	Bilabial		Labio Dental		Dental		Alveolar		Retroflex		Palatal		Velar	
	vL	vð	vL	vð	vL	vð	vL	vð	vL	vð	vL	vð	vL	vð
Stops	p	b			t	d		R						
Aspirated Stops	ph	bh			th	dh			t̪̥	d̪̥				
									t̪̥̥	d̪̥̥				
Nasals		m			n̪			n		ɳ̥		ɲ̥		ŋ̥
Laterals								l		ɭ̥		ɮ̥		
Flap								r						
Fricatives								s		ʂ̥		ʃ̥		h̥
Continuants													r̥	

CLASSIFICATION OF CONSONANTS

MANNER OF ARTICULATION :

	Voiceless	Voiced	Total
Stops	11	10	21
Nasals	..	6	6
Laterals	..	3	3
Flap	..	1	1
Fricatives	4	..	4
Continuents	..	2	2
Total	15	22	37

POSITION OF ARTICULATION

	Voiceless	Voiced	Total
Bilabial	2	3	5
Labio-dental	..	1	1
Dental	2	3	5
Alveolar	2	3	5
Retroflex	3	4	7
Palatal	3	5	8
Velar	3	3	6
Total	15	22	37

EXAMPLES OF CONTRAST
=====

VOWELS

SHORT VOWELS

WORD INITIAL

	e	a	o	u
i	x	x	x	x
e		x	x	x
a			x	x
o				x

eg.

/ i e a o /

/innu/

'to day'

/ennu/

'which day'

/annu/

'on that day'

/onnu/

'one'

/ i e a u /

/iri/

'sit (you, sg)'

/*eri/

'burning'

/ari/

'rice'

/*uri/

'a measure'

/ o u /

/oppu/

'signature'

/*uppu/

'salt'

W O R D M E D I A L

	a	a	o	u
i	x	x	x	x
e		x	x	x
a			x	x
o				x

Eg. / i e a o u /

/kittl/	'got'
/ketl/	'tied'
*/kattl/	'thickness'
*/kottl/	'knowked'
/kuttl/	'Child'

W O R D F I N A L

	e	a	o	u
i	x	x		x
e		x		x
a				x
o				

Eg. / i e a u /

/varl/	'row'
/vare/	'till'
/*vara/	'line'
/*taru/	'tree'

SHORT VOWEL VS LONG VOWEL

WORD INITIAL

	i i	ee	aa	oo	uu
i	x				
e		x			
a			x		
o				x	
u					x

Eg.

/i i i/

/iṭu/

'to put'

/iṭtu/

'mortgage : security'

/e ee/

/eṭu/

'to take'

/*eetu/

'folio : sheet'

/a aa/

/aṭi/

'food'

/aati/

'swing'

/o oo/

/oṭi/

'to break'

/ooti/

'ran'

/u uu/

/*uma/

'Goddess Parvathi'

/*uuma/

'dumb one'

WORD MEDIAL

	ii	ee	aa	oo	uu
i	x				
e		x			
a			x		
o				x	
u					x

/i ii/

/vitu/

'to release'

/viitu/

'house'

/e ee/

/petta/

'pair' : 'that which envolved'

/peetta/

'place name'

/a aa/

/patram/

'newspaper'

/paatram/

'vessel'

/o oo/

/koccine/

'child (o o)

/kooocine/

'coach' (foot-ball) oo)

/u uu/

/kuti/

'house'

/kuuti/

'increased'

	WORD	FINAL
	ii	ee oo aa uu
i	x	
e		x
a		
o		x
u		x

Eg.

/i ii/

man_i

'bell'

*man_ii

'personal name' (VO)

/e ee/

mak_ele

'daughter' (oo)

*mak_elee

daughter (voo)

/a aa/

aaka

'to be : become'

aakaa

'not to be : not to become'

/u uu/

*a_utu

sheep

aa[~]t_uu

'please swing ~~or~~ dance'

LONG VOWELS
WORD INITIALS

	ee	aa	oo	uu
ii	x			
ee		x		
'aa			x	
oo				x

Eg.

/ii ee oo uu /

/iitu/	'security'
/*eetu/	'folio'
/*aatu/	'sheep'
/ootu/	'tile'
*/uutu/	'woof' : 'narrow'

word medial

	ee	aa	oo	uu
66				
ii	x	x	x	x
ee		x	x	x
aa			x	x
oo				x

Eg. /ii ee aa oo uu/

*kiiṭam	'worm' : 'vermes'
keṭu	'defect' : 'daṅge'
kaṭu	'forest'
kooṭi	'crore'
*kuutu	'nest'

WORD FINAL
=====

	ee	aa	oo	uu
ii	x	x	x	x
ee		x	x	x
aa			x	x
oo				x

Eg. /ee ii aa oo uu /

/vaati/	'come on!' (a term used to call for inferior girls or women)
/vaata/	'come on!' (a term used to call for inferior boys or men)
/paatoo/	'difficulty!' (emp)
/paatee/	'wholly'
/paatuu/	'Please sing'

EXAMPLES OF CONTRAST

/p, ph/	
/pala/	'many'
/phalam/	'result'
/p, b/	
/pattu/	'ten'
/baṭṭa/	'allowance'
/p, bh/	
/paasa/	'personal name'
/bhaasa/	'language'
/p, t/	
/pala/	'many'
/tala/	'head'
/p, th/	
/kappal/	'ship'
/katha/	'story'
/p, d/	
/paanuur/	'place name'
/daanam/	'gift'
/p, dh/	
/panam/	'money'
/dhanam/	'wealth'
/P, R/	
/paatṭu/	'song'
/Raatṭu/	'wheel'
/p, ṭ/	
/pikkaRRu/	'picket'
/ṭikkaRRu/	'ticket'
/p, tḥ/	
*/paapam/	'sin'
/paatham/	'lesson'

/p,ḍ/		
/pattu/		'tén'
/ḍattu/		'death'
/p,dh/		
*/ruuḍham/		'rooted'
/ruupamḥ/		'figure : form'
/p,c/		
/piri/		'twist'
/ciri/		'laughter'
/p, ch/		
/patram/		'newspaper'
*/chatram/		'umbrella'
/p, j/		
/ḡaati/		'half'
/jaati/		'caste'
/p, jh/		
/pala/		'many'
*/jhala/		'girl : daughter'
/p,k/		
/pala/		'many'
/kala/		'art'
/p, kh/		
*/ḡaati/		'half'
/khaadi/		'khadi'
/p, g/		
/ḡanam/		'money'
/ḡanam/		'multitude'
/p, gh/		
*/ḡaṭṭam/		'kite'
/ghaṭṭam/		'stage'
/p, m/		
/ḡaṭi/		'entrance : step'

/p, <u>n</u> /		
	/peere/	'persons' oo
	/ <u>ne</u> ere/	'straight'
/p, n/		
	*/appam/	'bread'
	/annam/	'rice'
/p, n/		
	*/kappu/	'cup'
	/kan <u>nnu</u> /	'eye.'
/p, <u>n̄</u> /		
	/pet <u>ṭṭi</u> /	'box'
	*/ <u>n̄</u> et <u>ṭṭi</u> /	'shocked'
/p, ṇ/		
	/uRappu/	'security'
	/uRaṇ <u>ṇu</u> /	'to sleep'
/p l/		
	/pak <u>ṣam</u> /	'side' : '
	/lak <u>ṣam</u> /	'lakh'
/p, l/		
	/uppu/	'salt'
	/ul <u>ḷu</u> /	'in side'
/p <u>ḷ</u> /		
	/eppool/	'at whattime'
	/el <u>ḷ</u> ut <u>i</u> /	'wrote'
/ p r/		
	*/ <u>p</u> a <u>ṇ</u> tu/	'once upon a time'
	/ra <u>ṇ</u> tu/	'two'
/p s/		
	/pa <u>ḍ</u> yam/	'poetry'
	/sa <u>ḍ</u> yam/	'truth'
/ p ṣ/		
	/pa <u>ṣ</u> ar/	'pod'
	/ṣa <u>ṣ</u> ar/	'share'
/p, s/		

/sata/	'hundred'
/ p, h /	
*/paaram/	'very much'
/haaram/	'garland'
/p, v/	
/pala/	'many'
/vala/	'net'
/p, y/	
/paatram/	'vessel'
/yaatra/	'journey'
/ph, b, t, d, o, ch, j, jh, k, kh/	
/phalam/	'result'
/balam/	'strength'
/talam/	'palm' : 'place below'
*/dalam/	'petal'
/calam/	'pus'
*/chalam/	'lie'
/jalam/	'water'
*/jhala/	'daughter'
/ /	
/kalam/	'pot'
*/khalam/	'tank'
/ph, bh /	
*/viphalam/	'unfruitful'
/vibhavam/	'resource'
/ ph, th /	
*/kapham/	'phelegm'
/katha/	'story'
/ ph, dh /	
/phalam/	'result'
/dhanam/	'wealth'
/ph , R/	
/phiisu/	'fees'
/Rittu/	'wreath'

/ph, R/	
/phiisu/	'fees'
/Riittu/	'wreath'
/ph, ṭ, ḍ, /	
/phaaktu/	'FACT'
/ṭaaksu/	'tax'
/ḍaaktar/	'doctor'
/ph, ḡ, m/	
*/phanam/	'hood'
/ganam/	'multttitudā'
/manam/	'smell'
/ph, gh/	
*/phaaṣan/	'fashion'
/ghooṣam/	'huzza'
/ph, ṇ/	
/phalam/	'result'
*/ṇalam/	'soon'
/ph, ṇ, ṇ, ḷ, ḷ, ḷ, r, y/	
/kapham/	'phlegam'
/kanam/	'weight'
*/ḷkanam/	'drop'
/kalam/	'pot'
*/kalam/	'yard'
*/kala/	'slender'
/karam/	'tax'
*/kayam/	'eddy'
/ph, ṇ̄, ṇ̄/	
/kaaphi/	'coffee'
*/kaṇṇi/	'gruel'
*/kaṇṇi/	'burnt'

/ph, <u>n</u> , <u>ā</u> /		
/kaaphi/		'coffee'
/ph, s, v/		
/phalam/		'result'
/sthalam/		'place'
* <u>p</u> valam/		'right side'
/ph, <u>s</u> /		
/phool <u>s</u> u/		'force'
/soopp <u>s</u> /		'shop'
/b, bh/		
/batta/		'allowance'
/bhitti/		'wall'
/b, R/		
/boor <u>ṛ</u> u/		'board'
/Roor <u>ṛ</u> u/		'road'
/b <u>t</u> /		
/bi <u>s</u> kaRRu/		'biscuit'
/ti <u>k</u> kaRRu/		'ticket'
/b, <u>d</u> /		
/ba <u>d</u> ku/		'bank'
/da <u>n</u> su/		'dance'
/ b, <u>g</u> /		
/boor <u>ṛ</u> u/		'board'
/goor <u>ṛ</u> u/		'gold'
/b, m, <u>n</u> /		
/ba <u>a</u> la/		'girl'
/ma <u>a</u> la/		'necklace'
/na <u>a</u> lu/		four
/b, n/		
/byuut <u>t</u> i/		'beauty'
/nyu <u>u</u> su/		'news'
/ b <u>n</u> /		
*/k <u>l</u> ab <u>b</u> u/		'hotel'

/ b, ā /	
*/baṇṭu/	'bund'
*/ṇaṇṭu/	'orab'
/ b, l /	
/boodham/	'consciousness'
/lookam/	'world'
/ b r /	
/baadha/	'trouble'
/raadha/	'personal name'
/ b, s, v /	
/balam/	'strength'
/sthalam/	'place'
*/valam/	'right side'
/ bh, t /	
/bharanam/	'administration'
/taranam/	'should give'
/ bh, th /	
/abhayam/	'shelter'
/athavaa/	'if not : or'
/ bh, d /	
/bhakṣaṇa/	'food'
/dakṣiṇa/	'south'
/ bh, dh /	
/bharanam/	'administration'
/dhaaraṇa/	'understanding'
/ bh, R /	
/bhitti/	'wall'
/Rittu/	'wreath'
/ bh, C /	
/bhaaram/	'weight'
/caaram/	'ash'

/ bh, j /	
/bhayam/	'fear'
/jayam	'success'
/ bh k/	
bhavanam	'house'
kavanam	'literary work'
/ bh, kh /	
bhavanam	'house'
khanam	'mining'
/ bh, g /	
/bhra ^h antan/	'Brahmin' ✓
/gra ^h amam/	'village'
/ bh, gh /	
/bha ^h ttu/	'a caste'
/gha ^h ttam/	'stage'
/ bh, m, <u>n</u> , l /	
/bhayam/	'fear'
/*mayam/	'softness'
/ <u>n</u> ayam/	'policy'
/layam/	'absorption'
/ bh, n /	
/vibhavam/	'resources'
/vinayam/	'humbleness'
/ bh, r /	
/bhu ^h umi/	'earth'
/ru ^h upa/	'ruppee'
/ bh, s /	
/bha ^h aram/	'weight'
/sa ^h aram/	'jist'
/ bh, ṣ /	
/vibhavam/	'resource'
/viṣayam/	'subject'

' bh, ś /	bhikṣa	'alms'
	śikṣa	'punishment'
' bh, h /	/bhaaram/	'weight'
	*/haaram/	'garland'
/ bh, v /	'vibhāgam'	'portion' : 'division'
	vivaaham	'marriage'
/ bh, y /	bhavanam	'house'
	*yavanam	'greek' man'
/ t, th /	/kattu/	'letter'
	/katha/	'story'
/ t, d /	/taanum/	'self- and'
	/daanam/	'gift'
/ t dh /	/tiiram/	basin : coast
	/dhiiram/	'bold'
/ t, R /	/tootu/	'shell'
	/Roodu/	'road'
/t, ṭ /	/tinnu/	'eat' (you sg)
	*/ṭinnu/	'tin'
/ t, ṭh /	*/paata/	'path'
	/paatham/	'lesson'

/t , c /		
	/tala/	'head'
	/cila/	'scme'
/ t, g /		
	/tiri/	'wick'
	/giriʃ/	'personal name'
/ t, gh /		
	tattam	'vessel'
	ghattam	'stage'
/ t, m, n, v /		
	/tat̪i/	'timber'
	/mat̪i/	'laziness'
	/nat̪i/	'actress'
	/vat̪i/	'stick'
/ t, n, ñ /		
	/pata/	'foam'
	*/pana/	'palm tree'
	/panamʃ/	'money'
/ t, ñ /		
	/tahhal/	' a muslim caste'
	/nannal/	'we'
/ t, ñ /		
	/muutta/	'elder'
	*/muuñña/	'owl'
/ t, l /		
	/tala/	'head'
	*/lata/	'creeper'
/ t, l /		
	*/vita/	'wowing'
	/vila/	'orops'
/ t, l /		
	*/kooli/	'hen'
	*/kooti/	'out'

/ t, r /	
*/tan <u>ṭ</u> tu/	'stem'
/ran <u>ṭ</u> tu/	'two'
/ t, s, ṣ /	
/tooppu/	'fertile land'
/sooppu/	'soa <u>ṣ</u> p'
/ṣooppu/	'shop'
/ t, ś /	
/pata/	'foam'
/pasa/	'gum'
/ t, h /	
/tanikku/	self
/hanikka/	to kill
/t , y /	
/tan <u>ṭ</u> tram/	taot'
/yan <u>ṭ</u> tram/	'machine'
/ th, R, ṭ, o, k, m, ṇ, ṁ, ṇ, ṅ, ḥ, l, ḷ, ḹ, r, s, y /	
/katha/	story
/kaRa/	stain
/ka <u>ṭ</u> a/	shop
*/ka <u>ṣ</u> ca/	cloth
/kakka/	shell
*/kan <u>ṁ</u> mal/	ear or <u>na</u> ment
/kanni/	' a month ' (in M B)
/kan <u>ṇ</u> u/	'eye'
*/ka <u>ṇ</u> ṇi/	'rice gruel'
*/ka <u>ṇ</u> ḥi/	'burnt'
/kala <u>ṣ</u> /	'art'
*/kala/	'weed'
*/ka <u>ḷ</u> a/	'young tree cut for a post'
/kara/	'border-line'
*/ka <u>s</u> avu/	lace of gold or silver
/kayar/	rope

/th, d, dh, th /		
	*/patham/	'path'
	/padam/	'word'
	/vidham/	'manner'
	/paatham/	'lesson'
/ d, dh /		
	/daanam/	'gift'
	/dhanam/	'wealth'
/ d, R, t, th /		
	/paadam/	'foot'
	/paara/	'rock'
	*paatam/	'field'
	/paatham/	'lesson'
/ d, d, dh/		
	/vridhhi/	'development'
	*/v ^o i ^o dhi/	'fool'
/ d, g, gh /		
	/daanam/	'gift'
	/gaanam/	'song'
	/ghanam/	'weight'
/ d, m /		
	/daanam/	'gift'
	/maanam/	'prestige'
/ d, n /		
	/dalam/	'petal'
	*/naalam/	'soon'
/ d, th, n, n, n̄\$, d, l, l, r, s, h, y /		
	*/madam/	'proud'
	/matham/	'house'
	/manam/	'mind'
	/manam/	'smell'
	/maṇṇa/	'yellow'

/maññi/	'became dim'
/mala/	'mountain'
/ma _l a/	'rain'
/maram/	'tree'
*/maṣi/	'ink'
/mahaan/	'great man'
*/mayam/	'softness'
/ d, s /	
/dukham/	'sorrowfulness'
/sukham/	'comforness'
/ d , ṣ /	
/deesam/	'country'
/ṣeesam/	'remaining port'
/d, v /	
/dattu/	'adoption'
/vittu/	'seed'
/ d, ḷ /	
/paadam/	'foot'
/paalam/	'rail'
/ dh, R /	
madhu	'personal name'
*maRu	'mole'
/ dh, ṭ /	
/vidhu/	'moon'
/viṭu/	'to let free'
/ dh, o /	
/oiira/	'bold woman'
/oiira/	a kind of vegetable
/ dh, j, g, gh, m, h, v /	
/dhanam/	'wealth'
/janam/	'people'
/ganam/	'multitude'

/ghanam/	'weight'
*/manam/	'mind'
/hananam/	'killing'
/vanam/	'forest'
/ dh, k /	
/dhaarana/	'understanding'
/kaaranam/	'reason'
/ dh, n /	
/maadhevan/	'personal name'
*/maanaven/	'man'
/ dh, n /	
/dhiiram/	'boldness'
/niiram/	'water'
/ dh , n, ñ, ñ, l, l /	
/madhu/	'personal name'
/mani/	'bell'
/mañña/	'yellow'
/maññi/	'became ^{im} dm '
/mala/	'mountain'
/malu/	'axe'
/ dh, r /	
*/vidhi/	'fate'
/viri/	'cappet'
/ dh, s /	
/vidham/	'manner'
*/viṣam/	'poison'
/ dh, y /	
*/dhaatri/	'step mother'
/yeatra/	'journey'
/ R, th /	
¶ /paarāśala/	'place name'
/paathaśala/	'school'

/ R, d /

/Rayil/

rail

/ḍayal/

dial

/ R, ch /

*/puccham/

'contempt'

/puRRuḥ/

'mole-hill'

/ R, j /

*/kuuRa/

'cloth'

/kuuja/

'goklet'

/ t, ḍh /

*/viḍḍhi/

'fool'

/vittu/

'let free'

/ t, ch ḍ /

/tuṭam/

'a measure'

/tucham/

'littleness'

/ t, j /

*/kuuṭa/

'receiptaculam'

/kuuja/

'goklet'

/t jh /

*/ṭaṅkaaram/

'twang'

*/jhaṅkaaram/

'sibiliation' : 'hiss'

/ t, kh /

/mutṭam/

'place name'

/mukham/

'face'

/ t, g /

/ṭauvar/

'tower'

/gaauravam/

'seriousness'

/ t, gh /

*/meetam/

' a month (in M.E)'

/meegham/

'cloud'

/ ṭ, ṣ /

/maṭi/

'laziness'

/maṣ̣i/

'ink'

/ṭ, ṣ /

naṭ̣icoa

'Pretended- which'

naṣ̣ioca

'perished - which'

/ ṭ, h /

/aṭi/

'foot'

*paḥ̣i/

'snake'

/ṭ, v /

/paaṭam/

'field'

/paaṿam/

'poor'

/ ṭh, ḍ /

*/piiṭham/

'stool'

*p̣iida/

'ailment'

/ ṭh, c, j, k /

*/ matḥam/

'house'

/mac̣cu/

'ceiling'

*/mag̣ja/

'marrow'

/maḳan/

'son'

/ ṭh, m /

*saṭ̣hiccu/

'betrayed'

/ṣ̣amiccu/

'appeased'

/ ḍ, c /

/ḍansu/

'dance'

/caansu/

'chance'

/ ḍ, j /

/ḍayaḷ/

'dial'

/jayil/

'jail'

/ ḍ, k /

/ḍattu/

'death'

/kattu/

'letter'

/ ḍ, g, m , ṇ, y /

/ḍaansu/

'dance'

/gaanam/

'song'

/maanam/

'prestige'

*/ṇaamam/

'name'

*/yaanam/

'journey'

/ ḍ, ṇ, ṇ̄, ṇ̄̄, l, l /

/ṣeḍḍu/

'shed'

/pennu/

'girl'

/ṇeṇṇu/

'chest'

/teṇṇu/

'coconut tree'

*/ellu/

'bone'

*/eḷḷu/

'gingelly'

/ ḍ, l /

/pilḍa/

'ailment'

/pilḷa/

'fine'

/ ḍ, r /

*/viḍ^ḍhi/

'fool'

/virḷ/

'carpet'

/ ḍ, s /

/Roḍu/

'road'

*/Roosu/

'rose'

/ ḍ, ṣ /

*/ḍaappu/

'prescription'

/ṣaappu/

'shop'

/ ḍ, ṣ̄ /

/ḍaansu/

'dance'

*/ṣaanti/

'peace'

/ ḍ, v /

/ḍayaḷ/

'dial'

*/vayaḷ/

'field'

/ ḍh, c, m, ṇ /

/viḍḍhi/

'fool'

*piḥoi

'jasmine'

/vimmi/

'having suffocated'

/viṇṇi/

'having got pain'

/ ḍh, k, l, ṣ, v /

/muuḍhan/

'numekull'

/muukan/

tongue- tied : dump

/muukan/

'tongue - tied: dump'

/muulamp/

'reason'

ḍ muuṣa/

'mould'

/muuvar/

'three persons'

/ c, g /

*/caṇam/

'jute'

/gaṇam/

'multitude'

/ c, gh /

/caṭṭam/

'rule'

/ghaṭṭam/

'stage'

/ c, ṣ /

/caakku/

'sack'

/ṣaṇṇpu/

'shop'

/ c, ṣ /

/cila/

'some'

/ṣila/

'rock'

/ c h /

/oiṇṭa/

'thought'

/hindu/

'Hindu'

/ o, v /

/cakram/

'wheel'

/vakram/

curved : orwoked

/ ch, g /

*/ohaaya/

'likeness'

/gaayakan/

'musician'

/ch, gh /

/channam/

'hidden'

/ghanam/

'weight'

/ ch, m, n, v /

*/ohaaya/

'likeness'

/maaya/

'personal name'

*/naaya/

'dog'

*/vaaya/

'mouth'

/ oh, n , n, r, l, l, l /

/puham/

'contempt'

/punam/

'hole'

/punyam/

'goodness'

/puram/

'city'

/pula/

'pollution observed when a relative is lost'

/puli/

'tamarind'

/pula/

'river'

/ ch, y /

/ohatram/

'umbrella'

/yantram/

'machine'

/ j, n, l, /

/jayam/

'success'

/nayam/

'taot'

/layam/

'absorption'

/ j, n /

/vijayam/

'success'

/vinayam/

'humbleness'

/j, ñ, ṇ̃/

/kuuja/

'goblet'

/kuu^uja/

'mushroom'

/ j, ñ, ṇ̃, l, l /

/majja/

'marrow'

/mañña/

'yellow'

/maññi/

'became dim'

/malli/

'coriander'

/mala/

'rain'

/ j, l, r /

/kuuja/

'goblet'

/kuli/

'bathe'

/kuura/

'roof'

/ j, s /

/jaasti/

'plenty'

/saaksi/

'witness'

/ j, ṣ /

/puujyam/

'cipher'

/duusyam/

'defect'

/ j, ś /

/jaati/

'caste'

/śaala/

'chamber' : 'hall'

/ j, y /

/jaalam/

'multitude'

/yeatra/

'journey'

/ jh, m, ñ, s, ś, v /

*/jhala/

'daughter'

/mala/	'mountain'
/nalam/	'soon'
/sala/	'total amount of a 'Kuri'
/sila/	'rock'
/vala/	'net'
/ k, g /	
/kanam/	'drop'
/ganam/	'multitude'
/ k , gh /	
/kattu/	'made theft'
/ghattam/	'stage'
/ k, s, h /	
/kayaR/	'rope'
/sayaR/	'share'
/hayaR/	'higher'
/ kh, g, s, l, r, v, n̄ /	
/khandam/	'piece'
*/gandam/	'oheek'
*/sandam/	'cluster'
/landan/	'London'
/rantu/	'two'
/vantu/	'beetle'
*/nantu/	'crab'
/ kh, m /	
/khanna/	'personal name'
/mannu/	'a measure'
/ s n̄ /	
/gan̄yam/	'considerable'
/nan̄yam/	'coin'
/ s, n̄, h, /	
/peggu /	'peg'

/pennu/	'girl'
/penñhal/	'sister'
gh, <u>n</u> /	
/ghattam/	'stage'
/nattam/	'middle part of the body'
' gh, l, ṣ, ṣ̄, y /	
/meegham/	'cloud'
/meelam/	'festival'
/meesam/	'sheep'
/meesa/	'table'
/meeyam/	'measurable'
/ m, ṣ /	
/maappu/	'map'
/saappu/	'shop'
/ <u>n</u> ṣ̄ , h , v /	
*/nari/	'tiger'
/sari/	'right'
/hari/	'personal name'
/vari/	'row'

A L L O P H O N I C D I S T R I B U T I O N
=====

o f
a a

VOWELS AND CONSONANTS
=====

A L L O P H O N I C D I S T R I B U T I O N

V O W E L S

i / [i I]

[i] - High front unrounded tense voiced occurs initially and with length medially and finally

eg:

/illa/	[i l : ^]	'not'
/viittil/	[v i : t : I l]	'in the house'
/til/	[t i :]	'fire'

[I] Lower high front unrounded voiced occurs medially and finally without length

e / [e E]

[e] High front unrounded tense voiced occurs initially and with length medially and finally.

eg:

/etra/	[e t r ^]	'how many'
/peeru/	[p e : e u]	'name'
/annee/	[^ n : e :]	'on that very day' (emph)

[E] Mean mid unrounded voiced occurs medially and finally without length

eg:

/innale/	[i n : e l E]	'yesterday'
/veli/	[v E l I]	'out side'

a / [ə ^]

[ə] Lower mid unrounded central voiced occurs without length medially in the non-initial syllables.

eg.

/moosam/	[m o : s ə m]	'bad'
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[ʌ]

Lower mid unrounded back vocoid occurs in all other positions

/ alla /	[ʌ l : ʌ]	'not'
/ pala /	[p ʌ l ʌ]	'many'
/ aana /	[ʌ : n ʌ]	'elephant'

(When preceded by a velar Consonant the lower and mid unrounded back vocoid tends to become more retracted resulting into a low back unrounded vocoid [a] as in the word / kaakka / [ka : k : a] 'crow')

/ o / [o]

Mid unrounded back vocoid occurs initially medially and with length finally

eg :

/ oru /	[oru]	'one'
/ kooou /	[k o cou]	'child'
/ tannoo /	[t ʌ n : o :]	'is (it) given?'

/ u / [u, u]

[u]

High back rounded tense vocoid occurs initially medially and with length finally

eg :

/ ucoa /	[ucoʌ]	'mid-noon'
/ kuttī /	[kut : i]	'boy' : 'child'
/ puu /	[p u :]	'flower'

[u]

Lower high back unrounded vocoid medially except in the first syllable and word finally without length

/ krusi /	[krus i]	'agriculture'
/ kaattu /	[k ʌ : t : u]	'having waited'

C O N S O N A N T S

/ p / [p b p]

Bilabial voiced stop [p] with an onset of heavy voicing which fades towards the end occurs after a homorganic nasal ; bilabial semi-voiced continuant [b] occurs intervocally ; bilabial voiceless stop [p] occurs word initially medially, in clusters and with length.

e.g.	/kampani /	[kʌmbʌni]	'Company'
	/vilaapam /	[vɪla : bəɪm]	'lament'
	/pala /	[pʌlʌ]	'many'
	/kappal /	[kʌp : ʌl]	'ship'

/ ph / [ph]

Bilabial voiceless aspirated stop occurs initially and medially

e.g.	/phalam/	[phʌlɐm]	'result'
	*/kapham /	[kʌphɐm]	'mucous of the throat'

(In loan words; (usually in English loan words) the bilabial voiceless aspirated stop [ph] freely varies with [f], a bilabial voiceless fricative, occurs initially and medially

e.g.	/phiisu /	[ʃiisu]	'fee'
	/aaphiisu /	[ʃaafiisu]	'office'

/b/ [b]

Bilabial voiced stop occurs initially and medially and in clusters.

e.g.	/baakki /	[bʌ : k : i]	'balance'
	/klabbu/	[kʌb : u]	'Club'
	/braahmanan /	[brʌ : m : ə n ə n]	'Brahmin'

/ bh / [bh]

Bilabial voiced aspirated stop occurs initially and medially.

e.g.	/bhitti /	[bhɪt : i]	'wall'
	/abhayam /	[ʌbhʌyɐm]	'place of protection'
	/abhyarthana /	[ʌbhyʌrtʰənʌ]	'appeal'

/ t / [d̪ t̪]

Dental voiced stop [d̪] with an onset of heavy voicing which trails off towards the end, occurs after homorganic nasal, dental voiced continuant with slight friction [d̪] occurs intervocally and after / y / and dental voiceless stop [t̪] occurs elsewhere with or without length.

e. g.	/canta /	[cʌntʌ]	'market'
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/ itu /	[i <u>ḁ</u> u]	'this'
/ peytu /	[PE <u>ḁ</u> u]	'showered'
/ tettevete /	[t [^] t : v [^] t : E]	'Principle' (oo)
/ reetri /	[r [^] : tr ^I]	'night'

/ th / [th]

Dental voiceless aspirated stop occurs word medially only.

Eg.	/ ketha /	[k [^] th [^]]	'story'
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/ d / [d]

Dental voiced stop [d] occurs initially and medially

Eg.	/ duurem /	[du : r <u>ḁ</u> m]	'distance'
	/ addeeham /	[[^] d ^h e : h [^] m]	'he'
	/ mudra /	[m <u>ḁ</u> d r [^]]	'seal'

/ dh / [dh]

Dental voiced aspirated stop occurs initially and medially

Eg.	/ dhanam /	[dh [^] a : n [^] m]	'wealth'
	/ vidham /	[v ^h i d ^h a m]	'manner'
	/ eddhyeepike /	[[^] d ^h i y [^] a : p i ^h e [^]]	'lady teacher'

/ R / [.t .ḁ R]

Alveolar voiceless stop [t] occurs with length medially;
alveolar voiced stop [ḁ] after homorganic nasal;
alveolar trill [R] occurs in all other positions.

Eg.	/ kaerRu /	[k [^] a : .t <u>u</u>]	'wind'
	/ enRe /	[eḁḁ R]	'of me : my'
	/ paeRa /	[p [^] a : R [^]]	'rock'
	/ Reesan /	[R e : e ^h a n]	'vation'

/ ṭ / [ṭ ḁ ṭ]

Retroflex voiceless stop [ṭ] occurs initially, medially
retroflex voiced stop [ḁ] with an onset of heavy
voicing which fades out towards the end after a homorganic
nasal; and semi-voiced retroflex stop [ṭ̣] occurs
intervocally.

/ tikkəRRu /	[t̪ɪk : ət̪ɪm]	'ticket'
/ paṭṭu /	[pʌt̪ɪm]	'silk'
/ Rippoorṭṭu /	[Rɪp : o : r̪t̪ɪm]	'rāport'
/ ranṭu /	[rʌn̪ɪm]	'two'
/ poṭi /	[poṭ̪ɪ]	'dust'

/ ṭh / [ṭh]

Retroflex voiceless aspirated stop occurs only in the medial position.

Eg. / paṭṭham / [pʌ : ṭhʌm] 'lesson'

/ ḍ / [ḍ̪]

Retroflex voiced stop [ḍ̪] occurs initially and medially.

Eg. / ḍayal / [ḍ̪ʌyʌl] 'dial'
 / admiṣan / [ʌd̪mɪṣan] 'admission'
 / Redḍi / [R̪ɛ ḍ̪ : i] 'personal name'

/ ḍh / [ḍh]

Retroflex voiced aspirated stop [ḍh] occurs medially only

/ dṛḍham / [d̪r̪ḍham] 'firm'

/ o / [ɟ̪ ɟ̪̌ o]

Palatal voiced stop [ɟ̪] with a heavy voicing which fades out towards the end after a homorganic nasal;
 Semi-voiced palatal stop [ɟ̪̌] without length intervocalically; palatal voiceless stop [o] occurs with or without length elsewhere.

Eg. / āṇcu / [ʌn̪ɟ̪ɪm] 'five'
 */ ruci / [ruɟ̪ɪ] 'taste'
 / ciri / [ciɾɪ] 'laughter'

/ ch / [oh]

Palatal voiceless aspirated stop [oh] occurs initially and medially.

Eg. */ chatram / [chʌtrʌm] 'umbrella'
 / tuccham / [tuoohʌm] 'a little'

/ j / [j]

Palatal voiced stop [j] occurs initially and medially.

- Eg. / jli van / [jɪ : vən] 'life'
 / vijayan / [vɪjɐyən] 'success'
 / uunjaitam / [u : rj : lɛəm] 'enthusiasm'

/ jh / [jh]

Palatal voiced stop [jh] occurs initially and medially.

- Eg. */ jhala / [jhʌlʌ] 'daughter : girl'
 / nirjhari / [nɪrjharɪ] 'stream'

/ k / [g ɛ k]

Velar voiced stop [g] with a heavy voicing which fades out towards the end occurs after a homorganic nasal; Semi-voiced velar Continuent [ɛ] occurs intervocalically and after / y / velar voiceless stop elsewhere.

- Eg. / paṅku / [pʌṅgɐ] 'share'
 / makan / [mʌgən] 'son'
 / vayki / [vʌyɛɪ] 'became late'
 / kampani / [kʌmṭənɪ] 'Company'
 / raktam / [rʌktəm] 'blood'

/ kh / [kh]

[kh]

Velar voiceless aspirated stop_A occurs initially and medially.

- Eg. / khaṇanam / [khʌnʌnʌm] 'mining'
 / meekhala / [me : khʌlʌ] 'zone'

/ g / [g]

Velar voiced stop [g] occurs initially and medially.

- Eg. / guṇam / [guṇəm] 'quality'
 / anugraham / [ʌnugrahəm] 'blessing'

/ gh / [gh]

Velar voiced aspirated stop [gh] occurs initially and medially

- Eg. / ghaṭṭam / [ghʌṭ : ʌm] 'stage'
 */ meegham / [me : ghʌm] 'cloud'

/ m / [m]

Bilabial nasal [m] initially, medially (with or without length) and finally.

/ maram /	[m ^ r ə m]	'tree'
/ nammal /	[n ^ m : ə l]	'we'
/ uma /	[um ^]	'goddess'

/ n̥ / [n̥]

Dental nasal [n̥] occurs initially without length medially with or without length or preceding the homorganic stop.

Eg. / naalu /	[n̥ ^ : l u]	'four'
/ n̥ i n̥ nu /	[n̥ i n̥ : u]	'stood'

/ n / [n]

Alveolar nasal [n] initially, medially with or without length by preceding the homorganic nasal, 'an Clusters' and finally without length.

Eg. / nyaayam /	[ny ^ : y ə m]	'justice'
/ n̄aan /	[n̄ ^ : n]	'I'
/ vanam /	[v ^ n ə m]	'forest'
/ enRe /	[en̄ d̄ E]	'of me : my'
/ vinyaasam /	[V i ny ^ : s ə m]	'setting up'

/ n̄ / [n̄]

Retroflex nasal [n̄] occurs medially and finally

Eg. / maraṇam /	[m ^ r ^ ṇ ə m]	'death'
/ peṇ /	[p E ṇ]	girl

/ n̄ / [n̄]

Palatal nasal [n̄] occurs initially without length and in Clusters, and medially with length except when in Clusters.

/ n̄aan /	[n̄ ^ : n]	'I'
/ paṇṇi /	[p ^ n̄ : i]	'cotton'
/ aṇou /	[^ n̄ ɔ̄ u]	'five'

/ ŋ / [ŋ]

Velar nasal [ŋ] occurs medially with length or in Clusters.

Eg.	/ vaahhi /	[v ʌ : h : i]	'bought'
	/ paaku /	[p ʌ hgu]	'share'

/ l / [l]

Alveolar lateral [l] occurs in all positions.

Eg.	/lookam/	[lo:k ə m]	'world'
	/ pala /	[p ʌ l ʌ]	'many'
	/ kappal /	[k ʌ p : ʌ l]	'ship'

/ ɭ / [ɭ]

Retroflex lateral [ɭ] occurs in all positions (But its initial occurrence is very limited)

* / looha /	[lo:sh ʌ]	'The dress of a Christian Priest'
* / luusi /	[ɭ u : a i]	'personal name'
/ villi /	[vɪɭ i]	'calling'
/ makal /	[m ʌ ʂ ʌ ɭ]	'daughter'

/ ɭ / [ɭ]

Retroflex lateral fricative [ɭ] occurs medially without length

Eg.	/ mala /	[m ʌ ɭ ʌ]	'rain'
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/ r / [r]

Alveolar voiced flap [r] initially intervocalically and as the second constituent in Clusters with / b /, / d /, / g / and either as the first or second constituent with / ʂ /; alveolar trill. [r̄] occurs elsewhere.

Eg.	/ raatri /	[r ʌ : tri]	'night'
	/ maram /	[m ʌ r ə m]	'tree'
	/ kaaryam /	[k ʌ : ry ə m]	'matter'
	/ braahmanan /	[br ʌ : m ə n ə n]	'Brahmin'
	/ mudra /	[muɖr ʌ]	'seal'
	/ aagraham /	[ʌ : gr ə h ə m]	'desire'
	/ avar /	[av ə r]	'they'

/ s / [s]

Alveolar voiceless fricative [s] occurs initially medially and in clusters.

Eg.	/ satyam /	[s ʌ ty ə m]	'truth'
	/ vayassu /	[v ʌ y ə s : u]	'age'
	/ maasam /	[m ʌ : s ə m]	'month'
	/ sthalem /	[sth ʌ l ə m]	'place'

/ ʃ / [ʃ]

Retroflex voiceless fricative [ʃ] initially medially and in Clusters.

Eg.	/ ʃaappu /	[ʃ ʌ : p : u]	'shop'
	/ apeakṣa /	[ʌ p s : k ʃ ʌ]	'application'
	/ maṣi /	[m ʌ ṣ i]	'ink'

/ ṣ / [ṣ]

Palatal voiceless fricative [ṣ] without length initially and with or without length medially.

Eg.	/ ṣakti /	[ṣ ʌ k ṭ i]	'strength'
	/ mooṣam /	[mo : ṣ ə m]	'bad'
	/ oṣṇan, aṣṣeeri /	[o ʌ ṇ : ʌ n ʌ : ṣ : e : ri]	'place name'

/ h / [h]

Velar voiceless fricative [h] occurs initially and medially without length.

Eg.	/ hintu /	[h i n ṭ u]	'Hindu'
	/ daaham /	[d ʌ : h ə m]	'thirst'

/ v / [v]

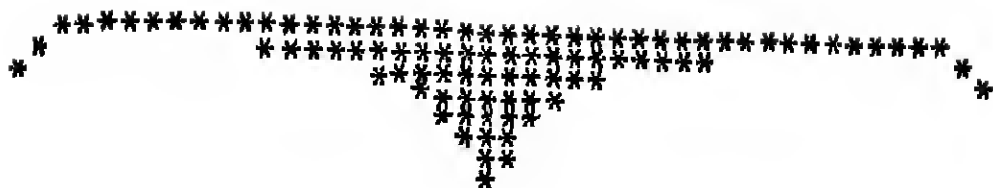
Labiodental voiced Continuant [v] occurs initially and with or without length medially.

Eg.	/ vanam /	[v ʌ n ə m]	'forest'
	/ avan /	[a v ə n]	'he'

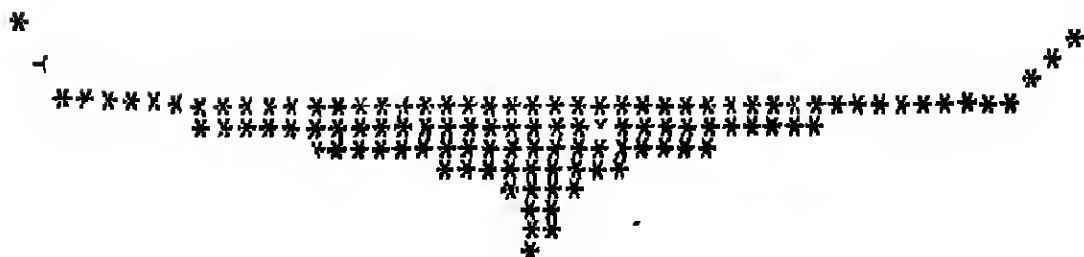
/ y / [y]

Palatal Continuant [y] initially medially and in Clusters.

Eg.	/ yaatra /	[y ʌ : t r ʌ]	'travel'
	/ pooyi /	[po : y i]	'went'



SYLLABIC STRUCTURE
=====



SYLLABIC PATTERN OF MALAYALAM

BASIS OF SYLLABIFICATION:

1. Vowel both long and Short or Cluster like / ai / and / au / Constitutes the nucleus of a Syllable. So they are as many number of Syllables in a word as they are vowels.
2. The initial Consonants or Consonant Clusters form the onset of the first Syllable. Word final Consonant forms the Coda of the final Syllable.
3. Medial Consonants with or without length go with the preceding vowel or vowel clusters.

SYLLABIC STRUCTURE

In a Syllable, both onset (O) and Coda (C) are optional and nucleus (N) is obligatory : i.e.

$$S = (O) N (C)$$

Any one of the vowels short or long, Constitutes the nucleus of a Syllable. i.e., $N = V (V)$. The onset of the initial Syllable may be any one of the word initial consonants or a consonant cluster.

Any one of the Consonants with or without length or Consonant, Cluster can form the coda of medial syllable.

SYLLABIC PATTERN OF MALAYALAM

Mono Syllabic patterns are very few in Malayalam. Disyllabic and trisyllabic words are more. (Disyllabic words are more than trisyllabic words) Other types are also very fewer in number.

MONO SYLLABIC WORDS

V	/ i /	'this'
VV	/ ii /	'this'
CVC	/ pen /	'girl'
CCVV	/ ʔrii /	'a respectable term'
CVV	/ tii /	'fire'
CVVC	/ keel /	'to hear'
CCVVC	/ ʔkuul /	'School'
CCCVV	/ strii /	'woman'
CCCVVC	/ ʔRRii /	'steel'

Multi Syllabic words :

Initial Syllable :

VC	/ ot - i /	'to break'
VVC	/ eel-u /	'seven'
VCC	/ etr-a /	'how many'
VCCCC	/ in ʔRR-iRRy-uutt-u /	'Institute'
VVCC	/ eeRR-am /	'ascending'
VVCCC	/ aarkk-u /	'ask to whom'
OVC	/ tat - i /	'timber'
OVVC	/ peer-u /	'name'
CCVC	/ pʔat - i /	'defendent : each'
CCVVC	/ Praan - i /	'creature'
OVCCC	/ mantri -i/	'minister'
CVVCC	/ paatr -am /	'vespal'
CCVCC	/ praty - eek - am /	'separate'
CCVVCCC	/ praartth-an-a /	'prayer'
CVCCCC	/ ʔabʔkr-aib-er /	'subscriber'
CCCVVCC	/ ʔRRaRR-i ʔRR-iks-u /	'Statistics'
CCCVVCCC	/ ʔRRaarcc-u /	'Starch'

MEDIAL SYLLABLES

VC	/ av-it-e /	'there'
VCC	/ pantr-ant-u /	'twelve'
VVC	/ ap-aak-am /	'immature'
VVCC	/ ulpr-eek-a /	'a figure of speech'
VVCC	/ aag-uuk-m-am /	'with care'

FINAL SYLLABLE

V	/ vañc-i /	'boat'
VV	/ vaat-i /	'come (she) on' (voo)
VC	/ viitt-i /	'in house'
VVC	/ var - aam /	'may come'

DISYLLABIC PATTERNS

- (C) VCV / at-i / 'blow : foot'
- (C) VCC / tal-a / 'head'
- (C) VCV / ak-am / 'inside'
- (C) VVC / kat-am / 'debt'
- (C) VVC VC / aar-um / 'nobody'
- (C) VVC VC / kaal-am / 'time'
- (C) VVC VVC / aak-aam / 'may be',
- (C) VVC VVC / pook-aam / 'may go'
- (C) VC VVC / it-aam / 'may put'
- (C) VC VVC / var-aam / 'may come'
- (C) VVC V / oot-i / 'ran'
- (C) VVC V / kuut-i / 'increased'
- (C) VCVV / anii /* 'personal name' (voc)
- (C) VCVV / manii /* 'personal name' (voc)
- (C) VVCCVV / aaco-ii*// 'personal name' (voc)
- (C) VVCCVV / oeco-ii*// 'elder sister' (voc)

TRI SYLLABIC PATTERN

- | | | | |
|----|-------------|--------------------------------|-----------------------|
| 1. | CVCVCVC | Viv-ar-am | 'information' |
| 2. | CVVC VVC VC | Seam-aan-am | 'substance' |
| 3. | VC VC V | ar-ut-u | 'don't be' |
| 4. | CVCC VVC VC | Ceyy-aan-um | 'for doing and' |
| 5. | CVC VVC VV | Kum-aar-oo | 'personal name' (voo) |
| 6. | CVC VVC V | <u>n</u> ir-a ^h a-a | 'despair' |

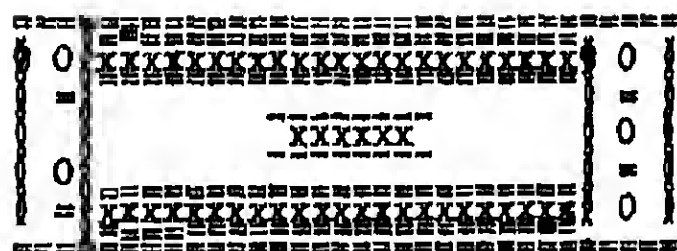
QUADRI SYLLABIC PATTERN

- | | | | |
|----|----------------|----------------|-----------|
| 1. | VVC VVC VC V | aar-aadh-an-a | 'worship' |
| 2. | CVC VVC VC VC | ah-ood-ar-an | 'brother' |
| 3. | CVC VVC VVC VC | am-aadh-aan-am | 'peace' |

A N E X P E R I M E N T A L S T U D Y

O F

C O N S O N A N T C L U S T E R S



AN EXPERIMENTAL STUDY OF THE PATTERNS OF CONSONANT
CLUSTERS, BASED ON 500 SELECTED WORDS

The words for the present study have been taken from
the Index^d and listed as follows.

FROM CONSONANTS

/ k /

ka	beginning words	5
kaa	..	5
ki	..	5
kil	..	5
ku	..	5
kuu	..	5
ke	..	5
kee	..	5
ko	..	3
koo	..	2
Cluster	..	5
		<hr/>
		50

/ o /

oa	..	5
oaa	..	5
oi	..	5
oii	..	5
ou	..	5
ouu	..	5
oe	..	5
oeo	..	5
oo	..	5
ooo	..	5

/ t /

ta	..	5
taa	.	5
ti	..	5
tii	..	5
tu	..	5
tuu	..	5
te	..	3
tee	..	3
to	..	5
too	..	5
clusters	..	4
		<hr/>
		50

/ p /

pa	..	5
paa	..	5
pi	..	5
pii	..	2
pu	..	5
puu	..	5
pe	..	5
pee	..	5
po	..	5
poo	..	5
clusters	..	5
		<hr/>
		50

/ m /

ma	..	5
maa	..	5
mi	..	5
mii	..	5
mu	..	5

muu	..	5
me	..	5
mo	..	5
moo	..	5
		<hr/>
		50

/ v /

va	..	10
vaa	..	10
vi	..	10
vii	..	5
ve	..	5
vee	..	5
Clusters	..	5
		<hr/>
		50

From Vowels

a	..	30
aa	..	20
i	..	20
ii	..	5
u	..	25
uu	..	3
e	..	20
ee	..	7
o	..	10
oo	..	10
		<hr/>
		150

Total words from Consonant section.	:	350
Total words from Vowel	:	150
		<hr/>
Total		500

LIST OF CLUSTERS AND THEIR FREQUENCY

WORD INITIAL C1 C2 Clusters

	freq.
kt	1
ky-	2
kr-	1
ks-	1
kl-	1
tv-	1
py-	1
pl-	1
pr-	1
ny-	1
vy-	1
<u>11</u>	<u>12</u>

WORD MEDIAL TWO CONSONANT CLUSTERS

Type	Freq.
====	====
-kk-	45
-oo-	18
--tt-	29
-dd-	1
-tt-	32
-dd-	2
-pp-	12
-nn-	29
-nn-	8
-nn-	3
-nn-	5
-nn-	2

-mm-	3
-RR-	11
-ll-	1
-ll-	1
-ss-	1
-ss-	1
-ky-	1
-kr-	3
-gr-	1
-ks-	7
-ks-	7
-tr-	1
-khy-	1
-kl-	1
-jy-	1
-tr-	6
-ay-	3
-pr-	2
-fk-	6
-ng-	5
-no-	3
-ng-	2
-nt-	13
-nt-	3
-mp-	5
-nR-	6
-ny-	1
-rd-	2
-rn-	2
-rv-	2
-rs-	1
-ls-	1

- <u>l</u> s-	1
- <u>s</u> v-	1
- <u>s</u> m-	1
-tv-	1
-ks-	7
-ks-	1
-tm-	1
-och-	1
-dgh-	1
-ddh-	1
<hr/>	<hr/>
50	291

MEDIAL THREE CONSONANT CLUSTERS

-kR ^R -	1
-ykk-	3
-rkck-	1
rtt-	1
-rjj-	1
-nty-	1
-ndr-	1
-ndr-	1
-ndr-	1
-mpy-	1
-lkk-	1
-lpp-	1
-str-	1
-sRR-	1
<hr/>	<hr/>
13	15

=====

CLASSIFICATION OF MEDIAL TWO CONSONANT CLUSTERS :-

I HOMOELEMENTAL - 01 01 Clusters

-kk-	-ññ-	-yy-
-cc-	-ññ-	-RR-
-tt-	-nn-	-ll-
-tt-	-nn-	-ll-
-dd-	-nn-	-ss-
-pp-	-mm-	-ss-

Total Numbers 19
 Total frequency 204
 Average Frequency. 10.7

II

STOP + LIQUID / CONTINUANT /FRICATIVE AS SECOND MEMBER

kr	tr	ky	dy	ks
gr	pr	khy	tv	
tr	kl	ly	ks	

Total numbers 23
 Total frequency. 29
 Average. 2.2

III

NASAL + STOP / CONTINUANT AS SECOND MEMBER

hk	ñc	.nt	mp	ny
hg	hg	nt	nr	

Total clusters 9
 Total freq. 44
 Average Freq. 5.0

IV

LIQUID + STOP / FRI./CONTI. AS SECOND MEMBER

<u>rd,</u>	rv	rs	ls	<u>ls</u>
Total	6			
Freq.	9			
Average.	1.5			

V S1 + S2 as SECOND ELEMENT { S1 =stop un aspirated
S2 =stop in aspirated }

-cch-	-dgh-	-dadh-
total	3	
freq.	3	
average.	1	

VI OTHER TYPES (HAVING ONLY ONE OCCURANCE EACH)

a) N1 + N2	nm	freq. 1
b) fri + N	em	.. 1
c) st + N	tm	.. 1

=====

INITIAL : CLUSTERS :-

I. STOP + LIQ/ CONTI./ FRI. AS SECOND MEMBER

kr, kl, pr, pl, ky, py, tv, ks,	
Total	8
Fréq.	9
Average.	1.0

other types only one example each

stop + stop	kt-	1
N + cent.	ny-	1
Cont.+ Cont	vy-	1

The most frequent item of O1 O1 Medial Clusters is -kk-

THREE CONSONANT MEDIAL CLUSTERS

- | | | |
|----|-----------------|-----------------|
| 1. | K | -KRR- |
| | S + RR | -SRR- |
| 2. | kk | -rkk- |
| | tt + r | -rtt- |
| | jj | -rjj- |
| 3. | N + Stop + r/y | - <u>n</u> dr- |
| | | - <u>n</u> dhr- |
| | | - <u>n</u> ty- |
| | | -m <u>p</u> y- |
| 4. | Lateral + C1 C1 | -lkk- |
| | | -lpp- |
| 5. | Fric + St + r | -str- |

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CLUSTERS
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GENERAL
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In Malayalam, Vowel Clusters are very few; only /ai / and / au / Consonant clusters occur only in the initial and medial positions. All the clusters available in the corpus have been listed separately.

TWO CONSONANT CLUSTERS :-

The following types of two consonant clusters can be identified.

- | | | |
|----------------------------------|--|---|
| 1. Stop + | Liquid
Continuant
Nasal | initially and medially
..
medially |
| 2. Fricative + | Stop
nasal
liquid
Continuant | initially, medially
.. ..
.. ..
.. .. |
| 3. Nasal + | Continuant
liquid
Stop
nasal (another)
fricative | initially medially
.. ..
medially
..
.. |
| 4. Continuant (V) + liquid (r) - | | medially |
| 5. liquid + | stop
nasal
fricative
Continuant | medially
..
..
.. |

Medial two consonant clusters of the form C1 C2 C2 can have / y r l l / as the first element C1 of the Cluster and ^{Some} ~~Some~~ of the long stops are nasals as constituting C2 C2."

Three Consonant Clusters are few in the initial position (eg. str, skr) and medially they are more in number. Clusters with more than three elements are very few in speech. But in writing they are possible. It is to be noted that loan words are bringing out new combinations of consonants to form Clusters.

CONSONANT CLUSTERS

Q INITIAL TWO CONSONANT :-

I. STOP + LIQUID (r, l, ɭ) as Second element

/ kr- /	/ kriya /	'action'
/ gr- /	/ graaman /	'village'
/ tr- /	/ troophy /	'trophy'
/ dr- /	/ draivar /	'driver'
/ dr /	/ dravyaṇṇal /	'matters'
/ pr- /	/ Priya /	'sweet'
/ br /	/ braahmanan /	'Brahmin'
*/ mr /	/ mruti /	'death (only one exception)
/ kɭ /	/ kɭaasu /	class
/ ɖɭ /	/ ɖɭuukkoosu /	
/ pɭ /	/ pɭaan /	'plan'
/ bɭ /	/ bɭookkil /	'in block'

II. STOP + CONTINUANT - (y v)

/ ky /	/ kyaampu /	'camp'
/ jy /	/ jyeetan /	'elder brother'
/ ty /	/ tyuusan /	'tution'
/ py /	/ pyuuttu /	'place name'
/ by /	/ byuutti /	'beauty'
/ tv /	/ tvakku /	'skin'
/ dv /	/ dviipu /	'island'

III. FRICATIVE + STOP / NASAL / LIQUID / CONTINUANT : as

SECOND MEMBER

/ sk /	/ skuul /	'school'
/ st /	/ stambhanam /	'halt'
/ sp /	/ spiikkar /	'speaker'
/ sm /	/ smaaraku /	'memorial'
/ sn /	/ sneehitan /	'friend'
/ sr /	/ sramioou /	'tried'
/ sl /	/ slookam /	'stake'
/ sv /	/ svantan /	'own'

WORD MEDIAL HOMOELFMENTAL (C1 C1) CONSONANT CLUSTERS

Nos.	Types	Example	Meaning
1.	-kk-	/kakka/	shell
2.	-hh-	/vaahhi/	brought
3.	-cc-	/pacca/	green
4.	-jj-	/lajja/	shyness
5.	-nn-	/pannam/	famine
6.	-tt-	/pattu/	silk
7.	-dd-	/Raddi/	Personal name
8.	-nn-	/mannanna/	Kerosene oil
9.	-tt-	/pattu/	ten
10.	-dd-	/addeham/	he (Resp: term)
11.	-nn-	/onnu/	one
12.	-nn-	/annam/	rice
13.	-pp-	/kappal/	ship
14.	-bb-	/Rabbar/	rubber
15.	-mm-	/sammaanam/	prize
16.	-yy-	/ceyyaan/	for doing
17.	-R ^h -	/paR ^h /	regarding
18.	-ll-	/alla/	not
19.	vv	/oovva/	Tuesday
20.	ll	/ulla/	having
21.	ss	/vayassu/	age
22.	ss	/cahhanaasseeeri/	Place name

EXAMPLE LIST FOR WORD MEDIAL TWO CONSONANT (C1 C2) CLUSTERS

TYPE I

STOP + LIQUID / CONTINUENT / FRICATIVE AS SECOND ELEMENT

/ -kr- /	/ prakriya /	'process'
/ -gr- /	/ aagraham /	desire
/ -ṭr- /	/ paṭrool /	petrol
/ -kl- /	/ oaakleeRRu /	chocolate
/ -bl- /	/ pablika /	public
/ -ky- /	/ vaakyam /	sentence
/ -khy- /	/ mukhya /	chief
/ -gy- /	/ aarogyam /	health
/ -ḡy- /	/ puuḡyam /	cipher
/ -ty- /	/ satyam /	truth
/ -dy- /	/ aadyam /	first
/ -dhy- /	/ adhyakṣan /	president
/ -bhy- /	/ labhyam /	that which is available
/ tv /	/ tatvam /	principle
/ ks /	/ aaksiliyaRi /	salary
/ kṣ /	/ bhakṣanam /	food

TYPE II

LIQUID + STOP / FRICATIVE / CONTINUENT : AS SECOND MEMBER

/ -rk- /	/ avarkaḷ /	he (a ^a respectful term)
/ rg /	/ varḡiyam /	communal
/ rgh /	/ diirgham /	long
/ rd /	/ boorḡdu /	board
/ ry /	/ eviikaaryam /	acceptable
/ rv /	/ appurvam /	rare
/ rḡ /	/ vaḡṣam /	year : rain
/ r̄s /	/ vimarṣanam /	criticism
/ rh /	/ arḡham /	deserving

/ lk /	/ ukkaṇṭa /	anxiety
/ lp /	/ alpam /	a few
/ lb /	/ ulboodhippikka /	say, to make one to understand
/ ly /	/ praabalyam /	in force
/ lv /	/ alvaar /	place name
/ le /	/ alsavam /	festival
/ lh /	/ delhi /	place name
lo	/ aalca /	week
ls	/ nalsu /	nurse
ld	/ gooldu /	gold

TYPE III
=====

NASAL + STOP / CONTINUANT / FRICATIVE / AS SECOND ELEMENT

/ tk /	/ patku /	share
/ ne /	/ ancu /	five
/ nj /	/ anjali /	folding hands and placing at breast
/ nt /	/ kantu /	saw
/ nd /	/ mandapam /	place in front of hindu temple.
/ np /	/ enpatu /	eighty
/ ndh /	/ bandhu /	relative
/ np /	/ onpatu /	nine
/ nR /	/ enRe /	my
/ mp /	/ sampalam /	salary
/ mb /	/ boombee /	Bombay
/ mbh /	/ sambhavam /	event
/ ny /	/ ganyam /	considerable
/ ny /	/ vinyasam /	setting up
/ my /	/ samnyam /	gentle
/ mv /	/ samvaranam /	reservation
/ ne /	/ sameyam /	doubt
/ me /	/ samearikkuka /	to speak
/ mh /	/ brahmanan /	brahmin
/ ns /	/ ansari /	personal name.

=====

P H O N O T A C T I C S

The distributional relationship of the phonological elements is dealt with in this section. The units taken for analysis are single words or fused phrase units.

V O W E L S :

All vowels both short and long except short vowel / o / occur word initially, Word medially and word finally. Short Vowel / o / will not occur in the word final position.

C O N S O N A N T S :-

All Consonants except / p̣ ḥ ḷ / and / ɭ / are capable of occurring in the word initial position. But a very few / ɭ / beginning words are found in the modern language such as / looha / the dress of Christian priest. / luusi / 'personal name' etc. But their frequency is very limited. Similarly the initial occurrences of / n / and / ṣ / are also very rare.

Out of the 37 Consonants, only ^{eight} Consonants - / m n ŋ R r l ɭ / and / y / Can occur in the word final position. The Velar nasal / ŋ / occurs only in the word medial position either with length or in Clusters. All other Consonants are Capable of occurring in the initial as well as in the medial positions.

Unlike Vowels, length Contrast for Consonants is found only in the medial position. (eg. / patam / 'picture' / paṭam / 'kite') But length is not possible with Consonants / ṣ, ḥ, r / and / ɭ /. The nasal / n̄, ŋ̄ / and / ŋ̄ / occurs medially with length or in Clusters.

The word final consonants except / m / freely varies with / Cu /. When the word is monosyllabic of the pattern CVC, the final C alternates with CCu.

Eg.

kaaR	KaaRu	'Car'
kaṇ _o	kaṇṇu	'eye'
kaḷ	kaḷlu	'stone'
kaal	kaalu	'leg'
kaḷ _o	kaḷḷu	'toddy'
vaḷḷ _o	vaḷḷu	'sword'
avar	avaru	'they'
kay	kayyu	'hand'

=====

DISTRIBUTION OF VOWELS - INITIALLY BEFORE

CONSONANTS EXAMPLE LIST

/ a /

/ akam /	'inside'
/ akhila /	'all'
/ agrikalcar /	'agriculture'
/ aṅgam /	'member'
/ ajit Kumar /	Personal name
/ aṭi /	'foot'
/ aniyikkuka /	'to bedeck'
/ atinaal /	'because of'
/ athavaa /	'or : otherwise'
/ addeeham /	'he (respectful term)'
/ adhikam /	'excessiveness'
/ annu /	'on that day'
/ anuvaadam /	'permission'
/ apakatam /	'accident'
/ abaddham /	'mistake'
/ abhayam /	'shelter'
/ amartuka /	'to suppress'
/ ayal /	'neighbouring'
/ ara /	'half'
/ aRivu /	'knowledge'
/ alaku /	'blade'
/ alavu /	'measurement'
/ alimati /	'corruption'
/ ava /	'they'
/ aśāstriyam /	'unscientific'
/ aṣukham /	'unhealthiness'

/ aa /

/ aake /	'totally'
/ aagata /	'that which comes'

/ aaghoṭṭam /	'celebration'
/ aatunnu /	'to swing'
/ aadiRRooRiyan /	'auditorium'
/ aanī /	'nail'
/ aatma /	'of the soul'
/ aadarṭam /	'ideal'
/ aadhaaram /	'basic'
/ aana /	'elephant'
/ aapta /	'believable'
/ aaphiiṭu /	'office'
/ aabhimukhyattil /	in presence : 'under auspicious'
/ aamukham /	'preface'
/ aayiram /	'thousand'
/ aarambham /	'beginning'
/ aṭṭu /	'six'
/ aalooṇa /	'thinking'
/ aalukaḷ /	'persons'
/ aalca /	'week'
/ aavaṣyam /	'need'
/ aāṣa /	'desire'
/ aaṭu /	'ash'
/ aṣṣadam /	'base' : 'support'
/ aahaaram /	'food'

/ i /

/ iṇṇane /	'this manner'
/ iṭa /	'middle part'
/ itara /	'other : alternate'
/ inṇale /	'yesterday'
/ inam /	'kind'
/ iprakaaram /	'this manner'
/ iratti /	'twice double'

/ iRaṇḍi /	'landed'
/ ilakṣan /	'Election'
/ ivar /	'these persons'
/ i /	
/ iitu /	'security'
/ ilavar /	'Ezhavas' (a Caste)
/ u /	
/ ucca /	'mid-day'
/ utan /	'at once'
/ unarvu /	'wakefulness'
/uttaram /	'answer'
/ udaram /	'abdomen'
/ unnayiccu /	'exposed to examination'
/ upakarikkuka /	' to become useful '
/ ummar /	' Personal name '
/ uyarnnu /	'having raised'
/ urukku /	'steel'
/ uRappiccu /	'Confirmed'
/ ulakam /	'world'
/ ulppete /	'inclusive'
/ uṣṣam /	'heat'
/ uu /	
/ uutṭi /	'place name'
/ uurjjitam /	'enthusiasm'
/ uuṣmalata /	'the state of hot'
/ e /	
/ ekṣeeyiṇcu /	'exchange'
/ eṇoiniyyaRiṇgu /	'engineering'
/ eṭuttu /	'having taken'
/ enna /	'oil'
/ etire /	'against'

/ en <u>n</u> u /	'which day'
/ enikku /	'to me'
/ eppool /	'when'
/ el <u>l</u> uti /	'wrote'
/ evi <u>t</u> e /	'where'
/ ee /	
/ eekam /	'single'
/ eejanRu /	'agent'
/ eerppa <u>t</u> u /	'arrangement'
/ eeRRavum /	'too much'
/ ee <u>p</u> ppicou /	'entrusted'
/ ee <u>l</u> u /	'seven'
/ eevar /	'which persons'
/ o /	
/ okke /	'all'
/ o <u>t</u> i <u>n</u> n <u>u</u> /	'broke'
/ ottu /	'joined'
/ on <u>n</u> u /	'one'
/ onpatu /	'nine'
/ oppu /	'signature'
/ ore /	'same'
/ oRRa /	'one'
/ o <u>l</u> i <u>n</u> n <u>u</u> /	'having vacated'
/ oo /	
/ oo <u>t</u> i /	'rain'
/ oophi <u>s</u> u /	'office'
/ oone <u>e</u> lsu /	'honours'
/ oo <u>y</u> il /	'oil'
/ oorttu /	'remembered'
/ oovarsiyar /	'overseer'
/ au /	
/ au <u>s</u> u /	'ounce'
/ audyoogika /	'official'
/ aulkri <u>s</u> ṭṭyam /	'excellency'
/ au <u>s</u> adham /	'medicine'

D I S T R I B U T I O N O F C O N S O N A N T S

(a) INITIALLY BEFORE VOWELS

	a	aa	i	ii	u	uu	e	ee	ai	o	oo	au
k	x	x	x	x	x	x	x	x	x	x	x	x
kh	x	x										
g	x	x	x		x			x			x	x
gh	x										x	
h												
c	x	x	x	x	x	x	x	x		x	x	
ch												
j	x	x	x	x	x	x						
jh												
n̄	x	x										
t	x	x	x	x			x		x			
th												
d	x	x	x	x					x		x	
dh	x	x		x		x						
n̄	x	x	x	x		x	x	x			x	
n	x	x	x				x		x		x	
p	x	x	x	x	x	x	x	x	x	x	x	x
ph	x	x	x	x	x		x				x	
b	x	x	x	x	x		x	x		x	x	
b̄g	x	x	x	x		x		x			x	
m	x	x	x	x	x	x	x	x	x	x	x	x
y	x	x			x	x						
r	x	x		x		x		x			x	
R	x	x	x	x				x			x	
l	x	x	x	x			x	x	x		x	
l̄												
l̄												
v	x	x	x	x			x	x	x		x	
s̄	x	x	x	x	x		x	x			x	
s	x	x	x	x	x	x	x	x	x		x	x
h	x	x	x				x		x		x	x

EXAMPLE LIST FOR DISTRIBUTION OF CONSONANTS

INITIALLY BEFORE VOWELS.

/ k- /

-a	katal	sea
-aa	kaatu	forest
-i	kitti	obtained
-ii	kiilil	bottom
-u	kutti	child
-uu	kuuti	increased
-e	ketti	tied
-ee	keettu	hard
-ai	kai	hand
-o	kotuttu	gave
-oo	kooti	orore
-au	kausalam	talent

/ kh /

-a	khananam	mining
-aa	khaadi	khadi

/ g /

-a	gati	way
-aa	gaanam	song
-u	guhya	secret
-ee	geelsu	girls
-oo	goopaalan	Personal name
-au	gauravam	Seriousness

/ gh /

a	ghatikaaram	clock
-oo	ghoosam	ceremonies

/ o /

-a	caritram	history
-aa	caaram	spy
-i	ciri	laughter

ii	oiittu	playing cards
u	ou ^o RRi	turned:rounded
-uu	ouutu	heat
-e	oeyta	did-wich
-ee	oerttu	made joined
-o	oobli	spoke : said
-oo	oodyam	question
	/ j /	
-a	jal ^a am	water
-aa	jaati	caste
-i	jilla	district
-ii	jiivikk ^o nnu	is living
-u	judi ^o eyal	judicial
-uu	juun ^o	june
-oo	jooli	work : job
	/ n̄ /	
-a	n̄a ^o ndal	we
-aa	n̄aan	I
	/ t̄ /	
-a	tan ^o	ton
-aa	taak ^o su	tax
-i	tikka ^o RRu	ticket
-ii	tiik ^o tii	tea
-e	teknikkal	technical
-ai	taippi ^o RRu	typist
	/ d̄ /	
-a	dayal ^o	dayal
-aa	daaktar ^o	doctor
-i	digri ^o	degree
-ii	diisal ^o	desal
-e	depoosi ^o RRu	deposit
-u ^o hai	daiveel ^o siphaidu ^o	deversified
-oo	doonbook ^o koo	name of an institution

/ t /

-a	tat _o i	timber
-aa	taan	oneself
-i	tiriccu	started
-ii	tii	fire
-u	tun _o i	cloth
-uu	tuukki	weighed
-e	teR ^h u	mistake
-ee	teet _o i	in search of
-o	tott _o u	touched
-oo	toott _o am	estate

/ d /

-a	dasam	ten
-aa	daanam	gift
-i	divasam	day
-ii	diiirgha	long
-u	dulkhita	sad
-uu	duuram	distance
-ee	deeham	body
-ai	daivam	God
-oo	doosam	badness
-au	deurbhaag ^y akaram	unfortunate

/ dh /

-a	dhanam	wealth
-aa	dhaatu	mineral
-ii	dhiiram	bold
-uu	dhuurttu	lavishness

/ n /

-a	nayam	policy
-aa	naam	we
-i	nila	position

செய்து கொடுத்திருக்கிறார்கள். இதுவரை எந்தவிதமான தாமதமும் இல்லை. இதுவரை எந்தவிதமான தாமதமும் இல்லை.

-ii	<u>ni</u> ikki	removed
-uu	<u>nu</u> u	thread
-e	<u>ne</u> duma <u>ni</u> adu	Place name
-ee	<u>ne</u> eti	achieved
-oo	<u>no</u> okki	looked
/ n /		
-a	<u>na</u> lsu	nurse
-aa	<u>na</u> ga <u>na</u> la <u>la</u> su	nationalize
-i	<u>ni</u> moon <u>i</u> ya	pneumonia
-e	ne <u>h</u> ru	Nehru (personal Name)
-ai	<u>na</u> lloo <u>n</u>	nylon
-oo	<u>no</u> o <u>tt</u> i <u>l</u> su	notice
/ p /		
-a	<u>pa</u> oca	green
-aa	<u>pa</u> atra <u>m</u>	vesse
-i	<u>pi</u> ti	handle
-ii	<u>pi</u> di <u>ya</u> atrik	pediatric
-u	<u>pu</u> tra <u>n</u>	son
-uu	<u>pu</u> u <u>ja</u>	worship
-e	<u>pe</u> n	woman
-ee	<u>pe</u> eru	name
ai	<u>pa</u> isa	paise (coin)
-o	<u>po</u> tu	common
-oo	<u>po</u> oyi	went
-au	<u>pa</u> ura <u>n</u>	citizen.
/ ph /		
-a	<u>ph</u> alam	result
-aa	<u>pha</u> a <u>Ra</u> m	form
-i	<u>ph</u> ili <u>m</u>	film
-ii	<u>ph</u> i <u>l</u> su	fees
-u	<u>ph</u> ul	full
-e	<u>ph</u> eda <u>Re</u> ssa <u>m</u>	Phone Federation
-oo	<u>ph</u> o <u>o</u> n	phone

	/ b /	
-a	bandhu	relative
-aa	baalan	boy
-i	birudam	degree
-ii	biiccu	beach
-u	budhan	wednesday
-e	beñch	bench
-ee	beesiku	basio
-o	bokkaaRo	Place name
-oo	boodham	conscienceness
	/ bh /	
-a	bharanam	reign
-aa	bhaaram	weight
-i	bhitti	wall
-ii	bhiimam	gigantic
-uu	bhuumi	earth, land
-ee	bheedam	change
-oo	bhooloonaath pasvaan	Personal name
	/ m /	
-a	makan	son
-aa	maasam	month
-i	mitram	ally
-ii	miiRRar	metre
-u	mutal	from
-uu	muñla	corner
-e	meccam	better
-ee	meekhala	zone
-ai	maitaanam	maidan
-o	mottam	total
-oo	mooṣam	bad
-au	maunam	silence

	/ y /	
-a	yantram	mechine
-aa	yaatra	journey
-u	yugathil	in the era
-uu	yuuniḡan	union
-oo	yoogam	meeting

	/ r /	
-a	rantu	two
-aa	raatri	night
-ii	riiti	pattern
-uu	ruupa	rupee
-ee	reekha	document
-oo	roogam	disease

	/ R /	
-a	Rabbar	rubber
-aa	Raattu	wheel
ai	Risarcou	Research
-ii	Riittu	wreath
-ee	Reegan	ration
-oo	Roodu	road

	/ l /	
-a	lakkam	number
-aa	laabhakaram	profitable
-i	lisRku	list
-ii	liigu	league
-e	leyttu	leyth
-ee	leelam	action
-ai	laiḡgikam	sexual
-oo	lookam	world

	/ v /	
-a	vaka	item
-aa	vaadai	bought

-i	vila	price
-e	vella	white
-ee	veeRe	another
ai	vaidyuti	electricity
oo	vo olibaal	vollyball

/ s /

-a	sakti	strength
-aa	saakha	branch
-i	sila	stone
-ii	silitam	coldness
-u	supaarāa	recommendation
-e	sentilkumaar	personal name
ee	seegi	ability
oo	soocaniyam	deplorable

/ s /

-a	ṣayar	share
-aa	ṣaappu	shop
-i	ṣippuyaaṣu	ship-yard
-u	ṣunṣee	personal name
-oo	ṣooppu	shop

/ s /

-a	satyam	truth
-aa	saahityam	literature
-i	sinima	Cinema
-ii	sita	personal name
-u	sukham	comfortness
-uu	suukeiccu	with care
-e	senRār	centre
-ee	seevanam	service
-ai	sain	name of a theatre
-oo	sooppu	soap
-au	ṣaukaryam	convenience

/ h /

-a	hanikkuka	to kill
-aa	h kaani	trouble
-i	hindi	Hindi language
-e	hevi	heavy
-ai	haiway	highway
-oo	hoottal	hotel
-au	hausiingu	housing

=====

MEDIALY__BEFORE__VOWELS

	a	aa	i	ii	u	uu	e	ee	ai	o	oo	au
k	x	x	x	x	x	x	x	x				
kh	x	x	x									
g	x		x	x	x							
gh		x									x	
h	x	x	x		x			x			x	
o	x	x	x	x	x			x				
oh	x											
j	x	x	x	x	x							
jh												
n̄	x	x	x		x		x				x	
t	x	x	x		x	x	x	x			x	
th	x		x									
d	x		x		x		x					
dh	x											
n	x	x	x		x	x		x			x	
tn	x	x	x	x	x	x	x	x			x	
d	x	x	x					x				
dh	x	x	x	x	x				x			
n	x	x	x		x			x			x	
n	x	x	x	x	x	x	x	x			x	x
p	x	x	x	x	x	x	x	x			x	
ph	x		x	x								
b	x		x								x	
bg	x	x	x		x						x	
m	x	x	x	x	x	x		x			x	
y	x	x	x		x						x	
r	x	x	x	x		x	x	x			x	
R	x	x	x		x		x				x	
l	x	x	x	x	x	x	x				x	x
l	x	x	x	x	x	x	x	x	x		x	x
v	x	x	x	x	x			x			x	
s	x	x	x	x				x			x	
s	x	x	x		x	x		x				
sh	x	x	x	x	x	x					x	

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DISTRIBUTION OF CONSONANTS

a

MEDIALY BEFORE VOWELS

EXAMPLE LIST

	/ k /	
a	/ akam /	inside
aa	/ pookaan /	to go
i	/ pratyeeekiocu /	especially
ii	/ vakkiil /	advocate
u	/ aakum /	will become
uu	/ anukuulam /	favourable
e	/ aake /	totally
ee	/ aakeenta /	that which has to become
	/ kh /	
a	/ meekhala /	zone
aa	/ sakhaakkal /	Comrades
i	/ akhila /	all
	/ g /	
a	/ avaganana /	disregard
i	/ roogikal /	patient
ii	/ saṅgītam /	music
u	/ anugunam /	consonant
	/ gh /	
aa	/ udghaṭṭanam /	inauguration
oo	/ aaghoṭṭam /	festival
	/ ṇ /	
a	/ aṇṇane /	that manner
aa	/ tuṭaṇṇaan /	for beginning
u	/ tuṭaṇṇuka /	beginning
i	/ tuṭaṇṇi /	began
ee	/ iṇṇaṇṇeenta /	to be descended
oo	/ iṇṇoṭṭu /	to this direction

	/ o /	
a	/aalooana/	thinging
aa	/upacaaram /	formality
i	/aalooicou /	thought
ii	/ maracciini /	tapioca
u	/ tikacum p	wholly
ee	/ matṭaamoeri /	place name
	/ Oh /	
a	/ tucanam /	very little
	/ j /	
a	/vijayam /	success
aa	/ raa jaavu /	King
i	/ alarji /	allergi
ii	/ sajjivam /	energetic
u	/taaṭṭuṭṭi /	personal name
	/ n /	
a	/ paṇṇam /	famine
aa	/ iriṇṇaalaṭṭa /	place name
i	/ paṇṇi /	cotton
u	/ paṇṇu /	said
uu	/ aṇṇuRu /	five hundred
oo	/ Paṇṇoo /	said or ?
	/ t /	
a	/ aṭṭa /	closed
aa	/ viṭṭa /	to release
i	/ piṭṭi /	handle
u	/ aṭṭa /	near
uu	/ vetṭu /	place name
e	/ kuṭṭe /	with
ee	/ paṭṭe /	wholly
oo	/ moṭṭe /	motor

	/ th /	
a	/ paatham /	lesson
h	/ pathiocu /	that which learnt
	/ d /	
a	/ prasidanRu /	President
i	/ medisai /	medicine
u	/ alindu /	ALIND
e	/ moodeen /	modern
	/ dh /	
a	/ drudham /	firm
	/ na /	
a	/ panam /	money
aa	/ kaanaan /	to see
i	/ pani /	work
u	/ kaanum /	will see
uu	/ mannuur /	place name
ee	/ kaaneenta /	to be seen
oo	/ aanoo /	is (it) so ?
	/ t /	
a	/ pata /	foam
aa	/ pataaka /	flag
h	/ mati /	enough
ii	/ atitam /	beyond
u	/ putuma /	newness
uu	/ kunnttuur /	place name
e	/ pookaate /	without going
ee	/ atee /	same
oo	/ atootu /	with it

	/ th /	
a	/ katha /	story
i	/ dusthiki /	bad state
	/ d /	
a	/ udaram /	stomach
aa	/ udaaharanam /	example
i	/ ulpaadippikka /	to make
ee	/ uddesam /	aim
	/ dh /	
a	/ uddhariccu /	lifted
aa	/ aadhaaram /	dependence
i	/ <u>n</u> ihi /	asset
ii	/ sadhiiram /	boldly
u	/ madhu /	personal name
ai	/ sadhairyam /	with bravery
	/ <u>n</u> /	
a	/ <u>inn</u> ale /	yesterday
aa	/ <u>enna</u> al /	but
i	/ <u>ennittu</u> m /	even though
u	/ <u>annu</u> /	on that day
ee	/ <u>annee</u> /	from that day onwards (emph
oo	/ <u>innoo</u> /	to any?
	/ n /	
a	/ manassil /	in mind
aa	/ pinnaakkam /	back word
i	/ ini /	hereafter
ii	/ aniti /	in justice
u	/ manugyan /	man
uu	/ <u>naanuu</u> ru /	four hundred
e	/ utane /	atonce
ee	/ <u>ittivineeyu</u> m /	decreased and

oo	/ manoobhaavam /	attitude
au	/ anaudyoogika /	non-official
	/ p /	
a	/ vipaṇanam /	selling
aa	/ apaakata /	immatively ^{uvity}
i	/ goopi /	Personal name
ii	/ ruupiikamikkuka /	forming
u	/ uppu /	salt
uu	/ apuurvam /	rare
e	/ eerppettu /	engaged
ee	/ apeekka /	application
oo	/ appool /	at that time
	/ ph /	
a	/ viphalam /	unfruitful
i	/ kaaphi /	coffee
ii	/ aaphiiru /	Office
	/ b /	
a	/ abadham /	error
i	/ kutumbi /	a Caste
oo	/ ulboodhippiccu /	said
	/ bh /	
a	/ abhayam /	shelter
aa	/ abhaavam /	the estate that which is not
i	/ abhipraayam /	opinion
u	/ albhutam /	wonder
oo	/ upabhogam /	enjoyment
	/ m /	
a	/ caramam /	death
aa	/ tiirumaanicou /	determined
i	/ niyamicou /	appointed
ii	/ samipiocu /	approached
u	/ samudram /	Sea

uu	/ amuulyam /	in valueble
ee	/ sammeelanam /	meeting
oo	/ labhikkumoo /	Whether (it) will get or
	/ y /	
a	/ vijayam /	success
aa	/ pooyaal /	if went
i	/ pooyi /	went
u	/ avayute /	of them
oo	/ viniyoogiccu /	gent
	/ r /	
a	/karam/	tax
ae	/ paraati /	complaint
i	/ piri /	twiet
ii	/ parlikea /	examination
u	/ 'guru /	great
uu	/ duruham /	dis belief
e	/ peere /	persons
ee	/ pareeta /	the woman who died
oo	/ puroogati /	Progres
	/ R /	
a	/ maRa /	screen
aa	/ maaRaate /	without moving
i	/ aaRi /	ascended
xi y	/ maRupati /	reply
uu	/ kuRuur /	house name
e	/ kuRe /	some
oo	/ aaRRoomik /	atomic
	/ l /	
a	/ kala /	art
aa	/ vilaapam /	weeping
i	/ aaaliocu /	protected

ii	/ kuliina /	noble
u	/ naalum /	four and
uu	/ aluuminiyam /	aluminium
e	/ innaale /	yesterday
oo	/ aloocana /	thinging
	/ 1 /	
a	/ valartti /	nurtured
aa	/ kollaan /	to absorb
i	/ kali /	play
ii	/ naaliikeeram /	Coconut
u	/ kallu /	toddy
uu	/ gluukkosu /	glucose
e	/ naale /	tomorrow
ee	/ koolleeju /	College
ai	/ plaiyuddu /	Plywood
oo	/ blockku /	block
au	/ blattau /	blouse
	/ 1 /	
a	/ mala /	rain
aa	/ viilaan /	to fall down
i	/ oliina /	become vacant
u	/ eluti /	wrote
oo	/ taaloottu /	to the bottom
	/ v /	
a	/ ava /	they
aa	/ ulavaakkum /	will inculcate
i	/ maRavi /	forgetfulness
ii	/ dviipu /	island
u	/ kuRavu /	defect
ee	/ aveesam /	spirit : ecstasy

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/ ṣ /

a	/ vaṣam /	side
aa	/ aaṣaan /	teacher
i	/ vaasi /	abstinacy
ii	/ naṣiikaraṇam /	spoiling
u	/ kaasu /	money
ee	/ niṣṣeṣam /	wholly
oo	/ paṣṣoodhana /	examination

/ ṣ /

a	/ viṣayam /	subject
aa	/ viṣaadam /	gen ^{ty} ence
i	/ maṣi /	ink
u	/ viṣu /	an important day for Hindus
e	/ paṣe /	perhaps
ee	/ kṣeetram /	temple

/ ṣ /

a	/ avasaram /	opportunity
aa	/ avasaanam /	end
i	/ Praśidham /	famous
ii	/ aślim /	Personal name
u	/ aśukham /	illness
uu	/ aśutranam /	planing

/ h /

a	/ sahaṣam /	natural
aa	/ mahaan /	great man
i	/ daahikka /	to become thirsty
oo	/ sahoodaran /	brother.

=====

D I S T R I B U T I O N O F C O N S O N A N T S

MEDIANALLY AFTER VOWELS

[illegible]

DISTRIBUTION OF CONSONANTS

EXAMPLE LIST

/ -k- /		
a-	akam	inside
aa-	aake	totally
i-	aṭikal	blows
ii-	aiikariccu	accepted
u-	anukuulam	favourable
uu-	muukam	silent
ee-	eeka	single : one
ai-	vaikunneeram	in the evening
oo-	lookam	world
au-	asaukaryam	in convenience

/ kh /

aa	saakha	branch
u	asukham	illness
ee	reekha	document

/ g /

a-	avaganana	dis regarding
aa-	avaagatam	welcome
i	pariganana	consideration
ii	liigu	League
u	anugunam	consonant
oo	roogam	illness
ee	veegam	soon

/ gh /

aa	aaghoosam	festival
ii	aiighram	quickly

/ ṇ /

a	aṇṇane	that manner
aa	vaṇṇi	bought
i	iṇṇu	here : to this place
ii	niṇṇaṇ	to move

u	kinnu kunnūññal	children
e	eññane	how
ee	teeñña	coconut
	/ c /	
a	ayaoca	sent which
aa	aacaaram	customs
i	paricayam	acquaintance
ii	piiocu	beach
u	ucoa	mid-noon
ee	viveeoanam	discretion
	/ j /	
aa-	raaji	resignation
i-	vi jayiocu	sucesseded
uu-	puuja	worship
ee-	peejiil	in the page
o-	bayooloji	biology
oo	yoojippu	oomoord
au	eaujanyam	free
	/ ñ /	
a	mañña	yellow
i	iriññasalakkuṭa	place name
	/ t /	
a	ataocu	closed
aa	paate	wholly
i	piti	handle
ii	viitu	house
u	mutakku	investment
uu	kuuti	increased
e	petate	without involving
ee	neeti	gained
o	potiññu	become powered
oo	kootati	court of law

/ th /

a	pathikkuka	learning
aa	paatham	lesson

/ d /

a	adisaanal	additional
aa	aadiraRu	audit
i	prasiḍanRu	President
ii	miidiyam	medium
u	phuḍu	food
uu	pruḍansi	prudancy
e	medisin	medicine
ee	Reeḍiyoo	radio
oo	moodal	model

/ dh /

u	drudham	firm
---	---------	------

/ n /

a	panam	money
aa	kaṇṇaam	to see
i	dakṣina	south
ii	viṇu	fell down
u	gunam	quality
uu	balakuninRe	of the balloon
e	penṇu	woman
ee	veenta	not needed
o	tontu	husk
oo	phoonil	through the telephone
au	saunsiḷ	council

	/ t /	
a	pata	foam
aa	paraati	complaint
i	mitam	normal
ii	aniiti	injustice
u	putuma	newness
uu	muutta	elder
e	metikkuka	thrusting
ee	neetaavu	leader
o	potu	public : common
oo	tooku	rate
	/ th /	
a	athavaa	or : if not
	/ d /	
a	padyam	poetry
aa	ulpaadanam	production
i	daaridryam	poverty
oo	oodiccu	asked
au	audyoogika	official
	/ dh /	
a	avadhi	leave
aa	aadhaaram	basio
i	nidhi	treasure
oo	boodham	conscienceness
	/ n /	
a	annu	on that day
i	innu	on this day : to day
u	irunnu	sat
e	ennu	on which day
o	onnu	one
	/ n /	
a	manassu	mind
aa	haani	defect
i	minaRal	mineral
ii	miinam	a month (ME)
u	munpu	front

	/ p /	
a	/ apakatam /	accident
aa	/ aapattu /	danger
i	/ vipananam /	selling
ii	p tiippetti /	matches
u	/ upaayam /	trick
uu	/ ruupikarikka /	forming
e	/ eppool /	when
o	/ oppu /	signature
oo	/ goopi /	Personal name
	/ ph /	
aa	/ aaphisu /	Office
	/ b /	
a	/ abaddham /	mistake
	/ bh /	
a	/ abhayam /	shelter
aa	/ aabharanam /	ornaments
	/ m /	
a	/ caramam /	death
aa	/ saamaanam /	articles
i	/ einima /	Cinema
ii	/ bhiimam /	gigantic
u	/ putuma /	newness
uu	/ uuma /	dumb one
e	/ Cempu /	Copper
o	/ ompatu /	nine
oo	/ boombay /	Place name
au	/ maumbaram /	adulthood
	/ y /	
a	/ vijayam /	success
aa	/ aayi /	became
i	/ viniyoogicou /	spent
ii	/ tiiyum /	five-and
u	/ uyarnnu /	raised

oo	/ pooyi /	went
	/ r /	
a-	/ karam /	tax
aa	/ kaaranam /	reason
i	/ piri /	twist
ii	/ tiirum /	will end
u	/ kuru /	seed
yu	/ kuura /	roof
ee	/ keeralam /	Kerala state
oo	/ pooraan /	for coming
au	/ pauran /	citizen
	/ R /	
a	/ maRa /	screen
aa	/ maRaana /	for moving
i	/ CiRi /	lips
ii	/ iIRa /	boomhu
u	/ kuRe /	come
ee	/ eeRi /	azended
o	/ oRRa /	single
oo	/ ooRma /	rememberence
	/ l /	
a	/ kala /	art
aa	/ naalu /	four
i	/ illa /	not
u	/ ula /	furnace
uu	/ kuuli /	Cooli
e	/ celluka /	to go to astikan
ee	/ lelam /	action
o	/ olluur /	place name
	/ l /	
a	/ kala /	weed
aa	/ kaala /	ox

i	/ilaya /	younger
ii	/ niilam /	length
u	/ ullil /	inside
	/ l /	
a	/ mala /	rain
aa	/ aaloa /	week
i	/ ilayuka /	to crawl
ii	/ viilum /	will full down and
oo	/ koola /	bribery
	/ s /	
a	/ vaśam /	side
aa	/ aaśa /	desire
i	/ niśa /	night
ii	/ iiśvaran /	God
ee	/ keśavan /	personal name
ai	/ saiśavam	infanoy
oo	/ mośam /	bad
au	/ kauśalam /	trick
	/ s /	
a	/ masi /	ink
i	/ viśayam /	subject
u	/ kuśan /	oushion
uu	/ uuśmalata /	the state having heat
au	/ auśadham /	drug
	/ S /	
a	/ avasaram /	oppertunity
aa	/ svaasam /	breath
ii	/ phiiśu /	fees
u	/ suśaadhyaam /	easy to come to hand
oo	/ poosRRal /	postal

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/ v /

a	/ avasaram /	opportunity
aa	/ bhaavi /	future
i	/ .divasam /	day
u	/ ouvar /	wall
e	/ evite /	where
ee	/ eever /	which people ?
ai	/ praivaR ^h u /	private
oo	/ proovidanRu /	provident

/ h /

a	/ sahajam /	inborn:national
aa	/ sahaaram /	food
oo	/ mooham /	desire

=====

	/ l /	
a	/ pal /	tooth
aa	/ paal p /	milk
i	/ peeril /	in name
ii	/ vakkiil /	advocate
uu	/ nuul /	thread
e	/ nel /	paddy
ee	/ meel /	above
ai	/ mail /	mile
oo	/ tool /	skin
	/ l /	
a	/ aval /	she
aa	/ naal /	day
i	/ kavil /	check
um	/ curul /	roll
uu	/ skuul /	school
ee	/ teel /	scorpion
	/ y /	
e	/ ney /	ghee

=====